

**REMARKS****I. REAL PARTY IN INTEREST**

The real party in interest is 3M Company (formerly known as Minnesota Mining and Manufacturing Company) of St. Paul, Minnesota and its affiliate 3M Innovative Properties of St. Paul, Minnesota.

**II. RELATED APPEALS AND INTERFERENCES**

Appellants are unaware of any related appeals or interferences.

**III. STATUS OF CLAIMS**

Claims 1-31 and 33-40 are pending. Claims 30, 31 and 33-40 are allowed. Claims 7-10 and 20-29 are objected to. Claims 1-6 and 11-19 presently stand rejected.

**IV. STATUS OF AMENDMENTS**

No amendment has been filed subsequent to the mailing of the Final Office Action on January 12, 2006.

**V. SUMMARY OF THE CLAIMED SUBJECT MATTER**

The presently claimed subject matter, as recited in independent claim 1, relates to a method of moving a web in relation to a selected transverse position. The method includes positioning a first positioning guide (such as first positioning guide 14 in Figure 1) proximate a second positioning guide (such as second positioning guide 16 in Figure 1). Page 5, lines 6-13. The web (such as web 12 in Figure 1) is passed through the first web guide (such as first positioning guide 14 in Figure 1) to reduce angular and transverse position errors. Page 6, lines 11-18. Additionally, the web (such as web 12 in Figure 1) is passed through the second positioning guide (such as second positioning guide 16 in Figure 2), which positions the web with a mechanism having zero-backlash (such as flexure plates 40, 42, 44 and 46). Page 6, lines 11-18; Page 7, lines 1-11. At the second positioning guide (such as second positioning guide 16 in Figure 1), the transverse location of the web (such as web 12 in Figure 1) is sensed. Page 9, lines 20-27; sec sensor 54 in Figure 1. The transverse location of the web (such as web 12 in Figure 1) at

the second positioning guide (such as second positioning guide 16 in Figure 1) is transmitted to a controller (such as controller 56 in Figure 1). Page 10, lines 11-17. A zero-backlash actuator (such as actuator 58 in Figure 1), which is coupled to the second positioning guide (such as second positioning guide 16 in Figure 1), is manipulated with the controller (such as controller 56 in Figure 1) such that the transverse position of the web (such as web 12 in Figure 1) is controllable to within a preselected dimension of the selected transverse position. Page 10, line 11 - Page 11, line 12.

Additionally, the presently claimed subject matter, as recited in independent claim 16, relates to an assembly for controlling a transverse position of a moving web. The assembly includes a first positioning guide (such as first positioning guide 14 in Figure 1) that manipulates a transverse position of the moving web (such as web 12 in Figure 1). Page 5, line 14 - page 6, line 17. The first positioning guide (such as first positioning guide 14 in Figure 1) exhibits an entrance span and an exit span (such as exit span 20 in Figure 1). Page 4, lines 18-23. A first closed loop control system (such as control system 22 in Figure 1) cooperates with the first positioning guide (such as first positioning guide 14 in Figure 1) so as to manipulate the first positioning guide (such as first positioning guide 14 in Figure 1) to control the transverse position of the moving web (such as web 12 in Figure 1). Page 5, line 25 - Page 6, line 10. The assembly further includes a second positioning guide (such as second positioning guide 16 in Figure 1) exhibiting an entrance span (such as entrance span 55 in Figure 1) and an exit span (such as exit span 57 in Figure 1), wherein the exit span (such as exit span 57 in Figure 1) is less than about one-half a width of the web (such as web 12 in Figure 1). Page 6, lines 11-18; page 4, lines 18-23. A second closed loop control system (such as control system 52 in Figure 1) cooperates with the second positioning guide (such as second positioning guide 16 in Figure 1) so as to manipulate the second positioning guide (such as second positioning guide 16 in Figure 1) to control the position of the moving web (such as web 12 in Figure 1) to within less than 0.004 inches of a setpoint. Page 6, lines 11-18; page 9, line 15 - page 10, line 24.

This summary does not provide an exhaustive or exclusive view of the present subject matter, and Appellant refers to the appended claims and their legal equivalents for a complete statement of the invention.

**VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL****Issue 1:**

Whether claims 1-4 and 6 are properly rejected under 35 U.S.C. §102(b), as being anticipated by U.S. Patent No. 3,615,048 to *Martin*.

**Issue 2:**

Whether claims 5 and 11-19 are properly rejected under 35 U.S.C. § 103(a), as being rendered obvious in view of U.S. Patent No. 3,615,048 to *Martin*.

**VII. ARGUMENTS OF APPELLANTS****A. The Law Applicable under 35 U.S.C. §102**

MPEP §2131 states the basic applicable law governing anticipation of claimed subject matter:

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

**B. Rejection of Claims 1-4 and 6 under 35 U.S.C. §102(b)**

As recited in independent claim 1, Appellants' invention relates to a method of controlling the transverse position of a moving web as it is transported along a series of rollers, as would be the case, for instance, in the context of a manufacturing environment.

Claim 1 is reproduced below:

1. A method of controlling a moving web in relation to a selected transverse position, the method comprising:
  - positioning a first positioning guide proximate a second positioning guide;
  - passing the web through the first positioning guide to reduce angular and transverse errors;
  - passing the web through the second positioning guide wherein the second positioning guide positions the moving web with a mechanism having zero-backlash;
  - sensing a transverse location of the moving web at the second positioning guide with a sensor;
  - transmitting the transverse location of the web at the second positioning guide to a controller; and
  - manipulating a zero-backlash actuator with the controller wherein the zero-backlash actuator is coupled to the second positioning guide such

that the transverse position of the web is controllable to within a preselected dimension of the selected transverse position.

By way of background, during manufacture, a web may be transported by a series of rollers, for example, in order to convey the web from one chemical treatment process to another. As the web is transported along the rollers, its transverse position along the rollers may vary, a phenomenon generally inimical to the goal of uniform and reliable treatment of the web. It is typically desirable to control the transverse position of the web as it moves along the rollers, e.g., to control the web so that it remains centered along the rollers.

Appellants invention, as recited in claim 1, relates to a method of using both a "first positioning guide" and a "second positioning guide" to control the transverse position of the web. The first positioning guide is used to reduce the transverse positioning error of the web. After being adjusted by the first positioning guide, the web is transported to the second positioning guide, whereupon the transverse position of the web is adjusted further still, in order to provide for fine control over the transverse position of the web. An exemplary embodiment of the scheme as recited in claim 1 is depicted in Figure 1 of Appellants' application, which is reproduced herein, below.

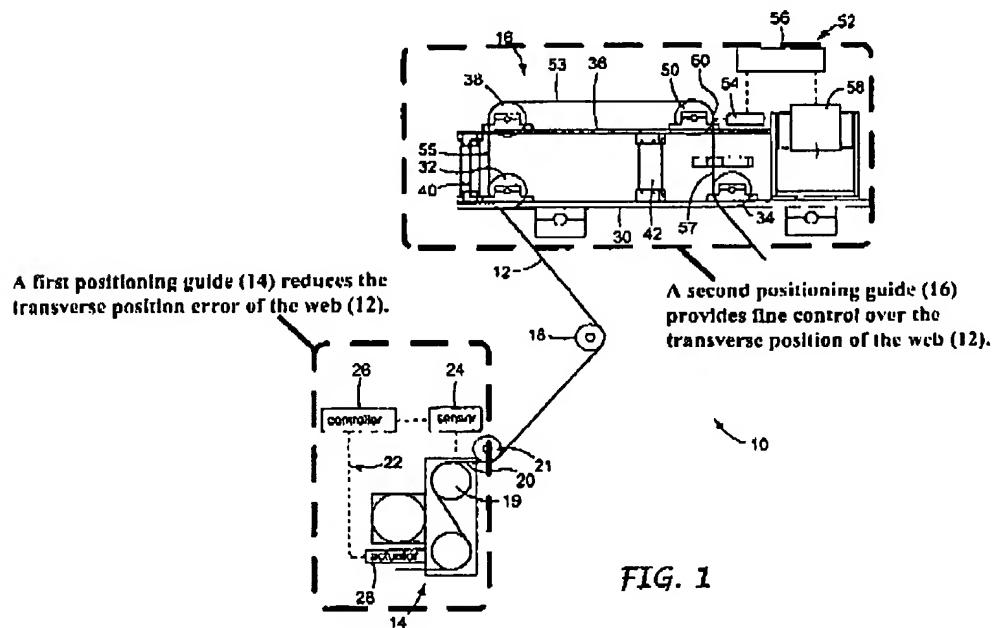
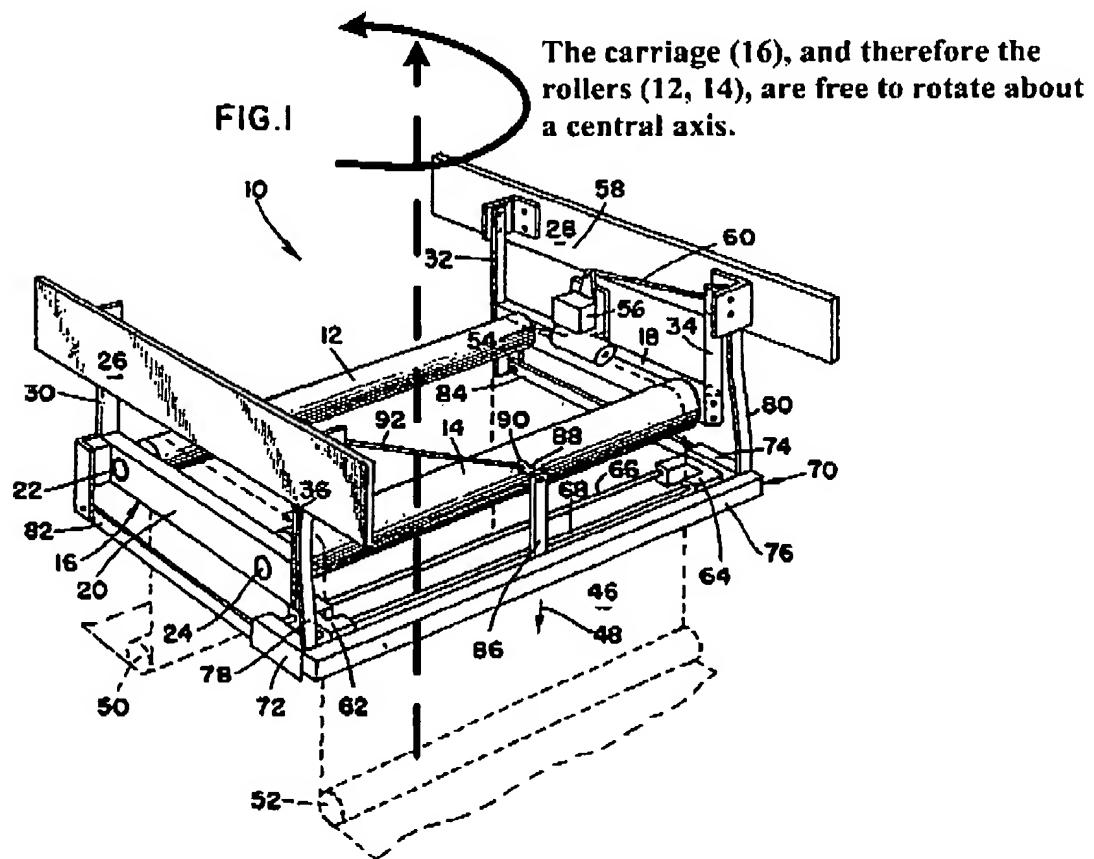


FIG. 1

According to the Final Office Action, U.S. Patent No. 3,615,048 (*Martin*) anticipates independent claim 1, and dependent claims 2-4 and 6. For the rejection of these claims to be proper, *Martin* must disclose each and every element of the claimed invention. Thus, the disclosure of *Martin* must include a "first positioning guide" and a "second positioning guide." However, *Martin* discloses a method of controlling the transverse position of a web using a single positioning guide—not two positioning guides—and therefore fails to anticipate independent claim 1 or any of its dependent claims.

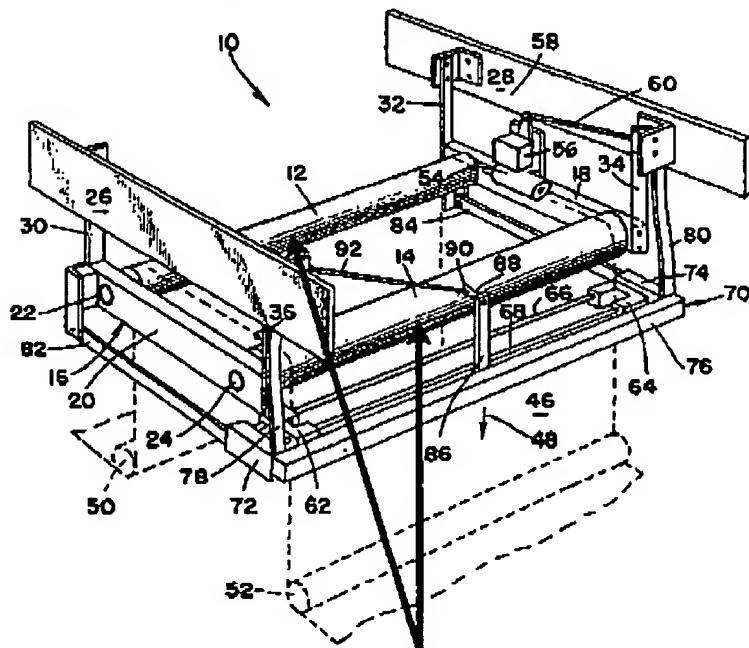
The positioning guide disclosed by *Martin* is depicted in Figure 1 therein, which is reproduced below.



As can be seen from Figure 1 of *Martin*, the positioning guide (10) disclosed therein is a device that includes two rollers (12, 14) mounted in a carriage (16). The carriage (16) is suspended from a pair of supports (26, 28) by four straps (30, 32, 34, 36). A motor (54) either pushes or pulls upon a connecting rod (60), causing the straps (30, 32, 34, 36) to twist. Twisting of the straps (30, 32, 34, 36) causes a concomitant rotation of the carriage (16), meaning that the rollers (12, 14) rotate with the carriage (16), thereby causing a web transported thereupon to alter its transverse position.

In formulating the rejection of independent claim 1 (and its aforementioned dependent claims), the Final Office Action characterizes each roller as "positioning guide," thereby transforming *Martin* from a reference teaching use of but a single positioning guide into one that teaches the use of two.

FIG. I



The Final Office Action characterizes each roller (12, 14) as a “positioning guide.”

To support such a characterization, the Final Office Action states that since each roller is able to position and guide the web, each roller may be termed a "positioning

guide." See Final Office Action, page 5. Thus, it appears that the Office Action has supplied a meaning for the term "positioning guide" by individually defining the terms "positioning" and "guide," and then combining them.

Appellants note that *Martin* uses the term "web guide" to refer to each roller. Such use of the term "web guide" may have led the Examiner to confer a similar meaning to the term "positioning guide," as the verbiage of these terms suggests that they are synonyms (in fact, these terms are synonyms, as stated in an affidavit of Mr. Swanson, enclosed herewith). See Affidavit of Mr. Swanson, ¶ 7. Appellants respectfully point out that *Martin* explicitly states that the term "web guide" conventionally refers to the entire apparatus for adjusting lateral position. See *Martin*, col. 1, lines 35-43 ("As used herein the term 'web guide' refers to parts of such apparatus such as rolls or angle bars around which the web is wrapped in changing the direction of the web path and the lateral position of the web. Such usage is to be distinguished from *conventional terminology* in which *the entire apparatus* for adjusting the lateral position of the web is called a web guide.") (Emphasis added). Moreover, as stated in Mr. Swanson's affidavit, the term "positioning guide" is also a term referring to the entire apparatus for adjusting the lateral position of the web. See Affidavit of Mr. Swanson, ¶ 7.

Appellants respectfully observe that during examination a claim term is to be given its plain meaning. MPEP §2111.01. The "plain meaning" of a claim term is its ordinary and customary meaning, as understood by those of ordinary skill in the art. Id. ("Plain meaning' refers to the ordinary and customary meaning given to the term by those of ordinary skill in the art.")

As shown by both the Affidavit of Mr. Swanson's and *Martin*, the term "positioning guide" conveys an ordinary and customary meaning referring to an entire apparatus for adjusting lateral alignment. In other words, the entire apparatus identified by reference numeral 10 in *Martin*'s Figure 1 is a "positioning guide," rather than each roller. Consequently, *Martin* fails to disclose a method of adjusting lateral alignment including both a first and a second positioning guide, as required by independent claim 1 and its dependent claims, and for at least this reason, the rejection of claim 1 under 35 U.S.C. §102(b) as being anticipated by *Martin* is improper.

Appellants go on to point out that Appellants' own claim language is repugnant to the notion that the term "positioning guide" refers to an individual roller. Examination of claim 7, which depends from claim 1, plainly uses the term "roller" to refer to an individual roller. Clearly, the term "positioning guide" does not also refer individually to a roller, as such an interpretation would lead to both terms referring to the same structure, a result that is disfavored in the canons of claim construction.

Applicants respectfully observe that the Examiner is obligated to determine the patentability of a claim based upon the preponderance of the evidence. See MPEP §706: "The standard to be applied in all cases is the 'preponderance of the evidence' test. In other words, an Examiner should reject a claim if, in view of the prior art and evidence of record, it is more likely than not that the claim is unpatentable." The record contains no evidence tending to support the rejection of claims 1-4 and 6, i.e., contains no evidence that the term "positioning guide" should be interpreted as referring to an individual roller. On the other hand, the following evidence supports patentability of the aforementioned claims:

- The Affidavit of Mr. Swanson states that the term "positioning guide" refers to an entire apparatus for adjusting the lateral position of a web.
- The Background section of *Martin* states that the term "web guide" refers to an entire apparatus for adjusting the lateral position of a web.
- The Affidavit of Mr. Swanson states that the terms "web guide" and "positioning guide" are synonymous, meaning that the term "positioning guide" also refers to an entire apparatus for adjusting the lateral position of a web.
- The similar verbiage of the terms "web guide" and "positioning guide" suggest that the terms are synonymous, meaning that the term "positioning guide" also refers to an entire apparatus for adjusting the lateral position of a web.
- Claims that depend from claim 1 use the term "roller" to refer to an individual roller, meaning that the term "positioning guide" should be construed as referring to some other structure than an individual roller.

Because the preponderance of the evidence plainly demonstrates that the ordinary and customary meaning of the term "positioning guide" is one that refers to an entire device for adjusting the lateral position of a web, the term should be so construed. Consequently, *Martin* should be viewed as containing but a single "positioning guide," and the rejection of claims 1-4 and 6 should be overturned.

#### C. The Law Applicable under 35 U.S.C. §103

MPEP §2142 states the basic applicable law governing obviousness of claimed subject matter:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

#### D. Rejection of Claims 5 and 11-19 under 35 U.S.C. §103(a)

As previously discussed, claims 5 and 11-19 all require both first and second positioning guides, and *Martin* fails to teach or suggest the use of both first and second guides. For at least this reason, *Martin* fails to render claims 5 and 11-19 obvious, and Appellants request that their rejection be overturned.

With respect to independent claim 16 (and its dependent claims 17-19), Appellants point out that the claim 16 recites first and second closed loop control systems cooperating with first and second positioning guides, respectively:

16. An assembly for controlling a transverse position of a moving web comprising:

a first positioning guide having a first entrance span and a first exit span wherein the first positioning guide manipulates a transverse position of the moving web;

a first closed loop control system cooperating with the first positioning guide wherein the first closed loop controller manipulates the first positioning guide to control the transverse position of the web;

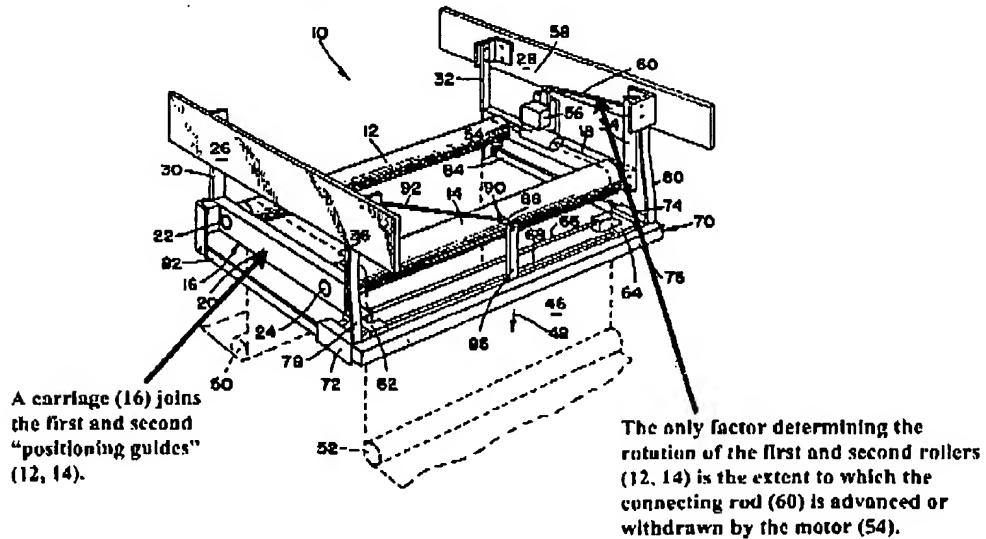
a second positioning guide having a second entrance span and a second exit span wherein the second exit span is less than about one half a width of the web; and

a second closed loop control system cooperating with the second positioning guide wherein the second closed loop controller manipulates the second positioning guide to control the position of the moving web to within less than 0.004 inches of the setpoint.

The Final Office Action acknowledges that *Martin* fails to disclose first and second closed loop control systems, but reasons that it would have been obvious "to attach an independent feedback control system of the second positioning guide onto the first positioning guide, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art."

Appellants respectfully point out that the "positioning guides," i.e., rollers, of *Martin* are joined by a carriage, meaning that they move jointly.<sup>1</sup> Stated another way, the rollers of *Martin* do not move independent of one another. Only one variable controls the positioning of the rollers: the extent to which the connecting rod is extended or withdrawn by the motor. However, once one control system would produce a signal to determine the extent to which the connecting rod is advanced or withdrawn, the connecting rod would move to the desired position, the carriage would rotate, and both rollers would accordingly rotate. Thus, there would be nothing left for the other control system to do.

FIG. I



In short, there can be no conceivable motivation for altering *Martin* to include a closed loop control system for each roller without altering the principle of operation of *Martin*. It is improper to reject a claim as being obvious in view of a reference that requires a modification that changes its principle of operation. See MPEP §2143.02 ("If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the prior art are not sufficient to render the claims *prima facie* obvious.") Therefore, there can be no motivation to alter *Martin* to include first and second closed loop control systems, and claims 16-19 are not obvious in view of *Martin*.

For the foregoing reasons, Appellants respectfully request that the rejection of claims 5 and 11-19 be withdrawn.

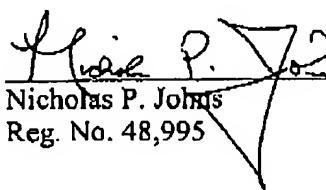
**SUMMARY**

For the foregoing reasons, it is submitted that the Examiner's rejections of the claims were erroneous. Therefore, reconsideration and withdrawal of the rejections, and allowance of these claims are respectfully requested.

Respectfully submitted,

MERCHANT & GOULD P.C.  
P.O. Box 2903  
Minneapolis, Minnesota 55402-0903  
(612) 371-5207

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Nicholas P. Johns  
Reg. No. 48,995